REMARKS

The Amendment

The specification has been amended to correct an inadvertent misspelling of "indicia".

The claims have been amended to obviate the 35 U.S.C. §112 rejection and to correct the spelling of "indicia". It is noted that the examiner requested that applicant amend the claims reciting a "transition" temperature to identify it as a "glass transition" temperature. Applicants did not intend to refer to a glass transition temperature, but rather to a melting transition temperature range; see page 7, lines 25-28. To avoid any possible ambiguity, applicants have amended the claims to recite "melting temperature" rather than transition temperature.

Claim 1 has been amended to recite the transfer as a "two-stage" transfer as disclosed on page 8, lines 13-15 and lines 29-31.

Claim 1 has also been amended to recite that the pressure sensitive adhesive used in the top coat is non-adhesive at ambient temperatures and is adhesive at the demolding temperature; see page 6, lines 6-9, and to recite that its melting temperature is less than the molding temperature; see page 7, lines 21-22.

Claim 2 has been amended to recite that the backing coat bonds to the carrier sheet at ambient temperatures and releases from the carrier at the demolding temperature; page 6, line 31 to page 7, line 4.

Claim 3 has been amended to recite that the backing coat also has a melting temperature below the molding temperature; page 7, lines 21-22.

Newly added claims 16 and 17 recite the compositions of the top and backing coats which are disclosed in the example; page 9, lines 9-10 and 20-21.

The Invention

The invention is a transfer useful in rotational molding by placing the transfer on the inside of the hot surface of the mold onto which it is transferred by removal of the carrier sheet and from which it is transferred to the product which is subsequently formed in the mold using a conventional rotational molding method. The transfer is, therefore. a two-stage transfer; first transferring to the mold surface and thereafter transferring to the molded product. The transfer becomes incorporated into the surface of the molded part; page 6, lines 15 and 16; page 8, lines 29-31; and page 9, line 32 to page 10, line 2. The transfer can only become incorporated into the surface of the molded polyolefin part if it melts and transfers into the polyolefin resin during the rotational molding steps.

The Restriction Requirement

The examiner required restriction on the assumption that the transfer would be useful in other processes and Applicants' attorney made a provisional election with traverse.. Reconsideration of the restriction in view of the amendment to the claims is respectfully requested. It is submitted that the transfer would have no utility apart from rotational molding, particularly in view of the claim limitations which depend on the parameters of rotational molding. If the examiner withdraws the restriction requirement, Applicants would, of course, file amendments to claims 11-13 comparable to the preceding amendments to claims 2 and 3.

The Rejection

Claim 1-8 were rejected for indefiniteness under 35 U.S.C. §112 for various reasons, including lack of antecedent basis for the word "polyolefin". It is believed that the preceding amendment obviates this rejection and reconsideration is respectfully requested.

Claims 1-3, 6 and 8 were rejected under 35 U.S.C. §102 as anticipated by Markar et al.

Claims 1-8 were also rejected under 35 U.S.C. §103 as considered by the examiner to be obvious from the teachings of Markar et al.

The Reference

Markar et al discloses a label transfer which is applied to preformed objects such as containers for beverages and which is well suited for application to "treated" low density polyethylene containers. The treatment of the polyethylene prior to application is a conventional flame treatment; note column 2, lines 4-20 and repeated references to conventional thermal transfer (including post-flaming) at column 6, lines 18-19 and column 8, lines 37-38. The same treatment is acknowledged by applicants as a destructive method of improving adhesion of materials to polyethylene at page 1, lines 12-16. Markar et al disclose a single transfer product, i.e., the transfer is directly applied to the product such as a beverage bottle, and the transfer layers become inverted, "as those layers which were farthest removed from the associated support sheet are now closest to the labeled article"; column 4, lines 10-14. Applicants' transfer is intended for use with a double transfer; first to the interior surface of a rotational mold and, during the molding step, to the molded part where the transfer layers become incorporated into the surface of the part; page 8, line 8-31.

Markar et al use a polyamide ink in their ink design layer 25 and a nitrocellulose and polyamide resin adhesive in their heat activated adhesive layer 27; column 3, lines 26-31. A lacquer layer 23 formed of a second cross-linked polyester resin is used as a protective layer which is to cover the label after it has been applied to the article.

Applicants' Arguments

The claims as originally filed and as now amended are not anticipated by Markar et al since the claims have always recited that the indicia layer is a mixture of hydrocarbon wax and indicia material. That is necessary for compatibility of the layer with the polyolefin resin used in the rotational molding step which permits the indicia layer to become incorporated into the molded part.

The claims now also recite that the adhesive layer of the top coat is non-adhesive at ambient temperatures and adhesive at the demolding temperature and that the top coat has a melting temperature less than the molding temperature. This insures that the top coat temporarily secures the transfer to the interior surface of the mold and that, during the molding step, the top layer separates from the mold surface and is incorporated into the molded part. This is disclosed in the specification as: "The top coat of the transfer separates from the surface of the mold, leaving no significant amount of residue on the mold surface when the molded part is ejected from the mold"; page 8, line 31 to page 9, line 3.

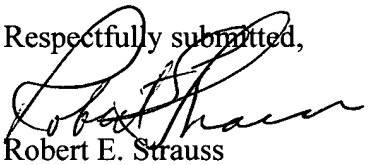
Markar et al disclose a transfer which is bonded to an article by a first and only transfer step. Markar et al use high melting point components; a nitrocellulose and polyamide resin adhesive and a lacquer layer formed of a cross-linked polyester resin to protect the applied label. The lacquer layer precludes any subsequent transfer of the label, which is its intended purpose.

The claims are also not obvious from the teachings of Markar et al. Applicants' invention avoids the destructive flame treatment or conventional thermal transfer (including post-flaming) required to render polyethylene receptive to the transfer labels of Markar et al. There is also no suggestion of multiple transfers of the coatings of the Markar et al transfer. As pointed out, above, Markar et al take steps to protect against any removal or release of the label from the article by including a protective lacquer layer. There is also no suggestion to use an indicia coating consisting of a wax and indicia material rather than the polyamide ink used

by Markar et al. Finally, there is no suggestion to provide a transfer with all the transfer coatings having melting temperatures below an article molding temperature so that the coatings become incorporated into the article during its molding. Those skilled in the art would not obviously conclude that the transfers of Markar et al could be useful for two-stage transfers such as to a heated mold surface and thereafter into the surface of a molded polyolefin part.

It is believed that the claims are of proper form and scope and define invention over the prior art. Examination and allowance are respectfully requested.

Respectfully submitted,



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APPENDIX

CLAIMS WITH AMENDMENTS ENTERED

1. A two-stage transfer useful to impart indicia to polyolefin products molded in a rotational mold at a molding temperature and ejected from the rotational mold at a demolding temperature less than the molding temperature, said transfer comprising:

a. a carrier sheet of a flexible material having an indicia area for reception of said indicia;

c. an indicia coat, in a preselected indicia array, consisting essentially of a mixture of indicia material and hydrocarbon wax overlying said indicia area; and

d. a top coat of a pressure sensitive adhesive which is substantially non-adhesive at ambient temperature and adhesive at said demolding temperature substantially covering said indicia area and overlying said indicia coat; and

said indicia and top coats having melting temperatures less than said molding temperature.

2. The transfer of claim 1 including a backing coat of a pressure sensitive adhesive which bonds to the carrier sheet at ambient temperatures and releases from the carrier sheet at said demolding temperature between said indicia coat and said carrier sheet, substantially covering said indicia.

3. The transfer of claim 2 wherein the melting temperature of the backing-coat pressure sensitive adhesive is less than said molding temperature.

APPENDIX

6. The transfer of claim 2 wherein said backing and top coats extend peripherally beyond said indicia area, thereby encapsulating said indicia coat within said backing and top coats.

7. The transfer of claim 2 wherein said indicia coat is a mixture of from 30 to 99 weight percent hydrocarbon wax and from 1 to 70 weight percent colorant.

8. The transfer of claim 1 wherein said polyolefin is polyethylene.

16. The transfer of claim 1 wherein said top coat adhesive is a hydrocarbon resin.

17. The transfer of claim 2 wherein said backing coat adhesive is a hydrocarbon wax.